

We report on a new thermometer being developed for use near the tricritical point in helium-3/4 mixtures. It is based on existing designs for high-resolution thermometers (HRT's) that use a dc-SQUID to detect the magnetization of a paramagnetic sensing element. We present the design and test results of an HRT using a gadolinium gallium garnet crystal as the paramagnetic sensing element. The applied magnetic field for the HRT is supplied by trapping a field in a niobium flux tube that surrounds the sensing element. The magnitude of this trapped field can be varied by using different permanent magnets and changing their spacing from the flux tube. Sensitivity and noise data over the temperature range 0.75 to 1.0 K for applied fields from 50 to 300 Gauss will be presented.